

## ABSTRACT

This invention concerns a bioaffinity assay for quantitative determination in a sample of free PAPP-A, defined as the pregnancy associated plasma protein A  
5 (PAPP-A) that is not complexed to the proform of major basic protein (proMBP), wherein  
free PAPP-A is determined either i) as a calculated difference between measured total PAPP-A and measured PAPP-A complexed to proMBP, or  
ii) by a direct bioaffinity assay measuring only free PAPP-A.  
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Furthermore, the invention concerns a method for diagnosing an acute coronary syndrome in a person by using as marker either free PAPP-A as such or a ratio  
free PAPP-A/total PAPP-A,  
free PAPP-A/PAPP-A complexed to proMBP, or  
15 PAPP-A complexed to proMBP/total PAPP-A.